

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,783,965 B1
APPLICATION NO. : 09/501730
DATED : August 31, 2004
INVENTOR(S) : Sherman et al.

Page 1 of 4

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title page of the patent, please replace exemplary drawing FIG. 1 with corrected FIG. 1.

Also, please replace FIG. 1 and FIG. 5 with corrected replacement figures attached herein.

Signed and Sealed this

First Day of September, 2009

A handwritten signature in black ink that reads "David J. Kappos". The signature is written in a cursive, flowing style with a large initial 'D' and a stylized 'K'.

David J. Kappos
Director of the United States Patent and Trademark Office

(12) **United States Patent**
Sherman et al.

(10) **Patent No.:** **US 6,783,965 B1**
(45) Date of Patent: ***Aug. 31, 2004**

(54) **AGGREGATE-FREE URATE OXIDASE FOR PREPARATION OF NON-IMMUNOGENIC POLYMER CONJUGATES**

(75) **Inventors:** **Merry R. Sherman, San Carlos, CA (US); Mark G. P. Salfer, San Carlos, CA (US); L. David Williams, Fremont, CA (US)**

(73) **Assignee:** **Mountain View Pharmaceuticals, Inc., Menlo Park, CA (US)**

(*) **Notice:** **Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.**

This patent is subject to a terminal disclaimer.

(21) **Appl. No.:** **09/501,730**

(22) **Filed:** **Feb. 10, 2000**

(51) **Int. Cl.:** **C12N 9/04; C12N 15/00; A61K 38/44; C07K 1/00; C07H 21/04**

(52) **U.S. Cl.:** **435/190; 435/191; 435/440; 424/94.4; 536/23.2; 530/350**

(58) **Field of Search:** **435/190, 191, 435/440, 170; 424/94.4, 94.6; 536/23.2; 530/350, 413**

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,616,231 A 10/1971 Bergmeyer et al.
 4,460,683 A 7/1984 Olgier et al.
 4,766,106 A 8/1988 Katre et al.
 4,847,325 A 7/1989 Shadle et al.
 4,917,888 A 4/1990 Katre et al.
 5,286,637 A 2/1994 Veronese et al. 435/183
 5,382,518 A 1/1995 Caput et al.
 5,428,128 A 6/1995 Mensi-Faltoni et al.

5,541,098 A 7/1996 Caput et al.
 5,612,460 A 3/1997 Zalipsky
 5,643,575 A 7/1997 Martinez et al. 424/194.1
 5,653,974 A 8/1997 Hung et al.
 5,811,096 A * 9/1998 Aleman et al. 424/94.4
 5,880,255 A 3/1999 Delgado et al.
 5,919,455 A 7/1999 Greenwald et al.
 6,576,235 B1 * 6/2003 Williams et al. 424/94.4
 2002/0110319 A1 * 1/2002 Ansaldi et al. 530/387.1

FOREIGN PATENT DOCUMENTS

DE 279 486 A1 6/1990
 JP 09154581 6/1997
 WO 94/19007 9/1994
 WO 00/07629 2/2000
 WO 00/08196 2/2000

OTHER PUBLICATIONS

Caliceti et al. Biopharmaceutical properties of uricase conjugated to neutral and amphiphilic polymer. Bioconjugate Chem. 10, 638-646. (1999).*

(List continued on next page.)

Primary Examiner—Poonalhapu Achutamurthy

Assistant Examiner—Yong Pak

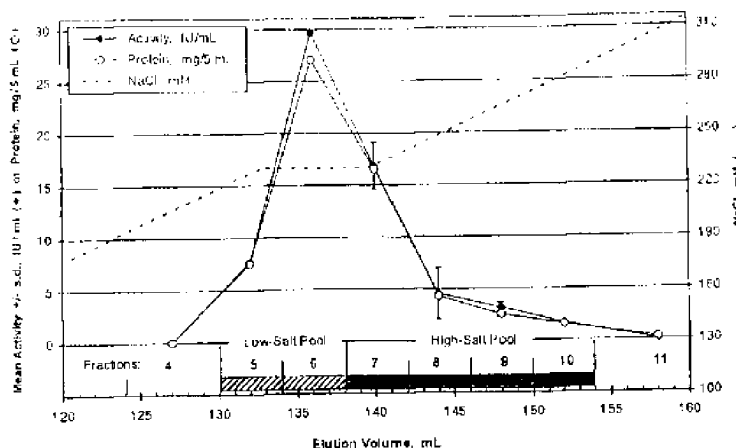
(74) *Attorney, Agent, or Firm—Sierne, Kessler, Goldstein & Fox P.L.L.C.*

(57) **ABSTRACT**

A naturally occurring or recombinant protein, especially a mutein of porcine urate oxidase (uricase), that is essentially free of large aggregates can be rendered substantially non-immunogenic by conjugation with a sufficiently small number of strands of polymer such that the bioactivity of the protein is essentially retained in the conjugate. Such conjugates are unusually well suited for treatment of chronic conditions because they are less likely to induce the formation of antibodies and/or accelerated clearance than are similar conjugates prepared from protein preparations containing traces of large aggregates.

30 Claims, 6 Drawing Sheets

UV Assay of Uricolytic Activity in Fractions from Mono Q Chromatography of PKS Uricase
(Protein Based on Size Exclusion HPLC)



U.S. Patent

Aug. 31, 2004

Sheet 1 of 6

6,783,965 B1

UV Assay of Uricolytic Activity in Fractions from Mono Q Chromatography of PKS Uricase
(Protein Based on Size-Exclusion HPLC)

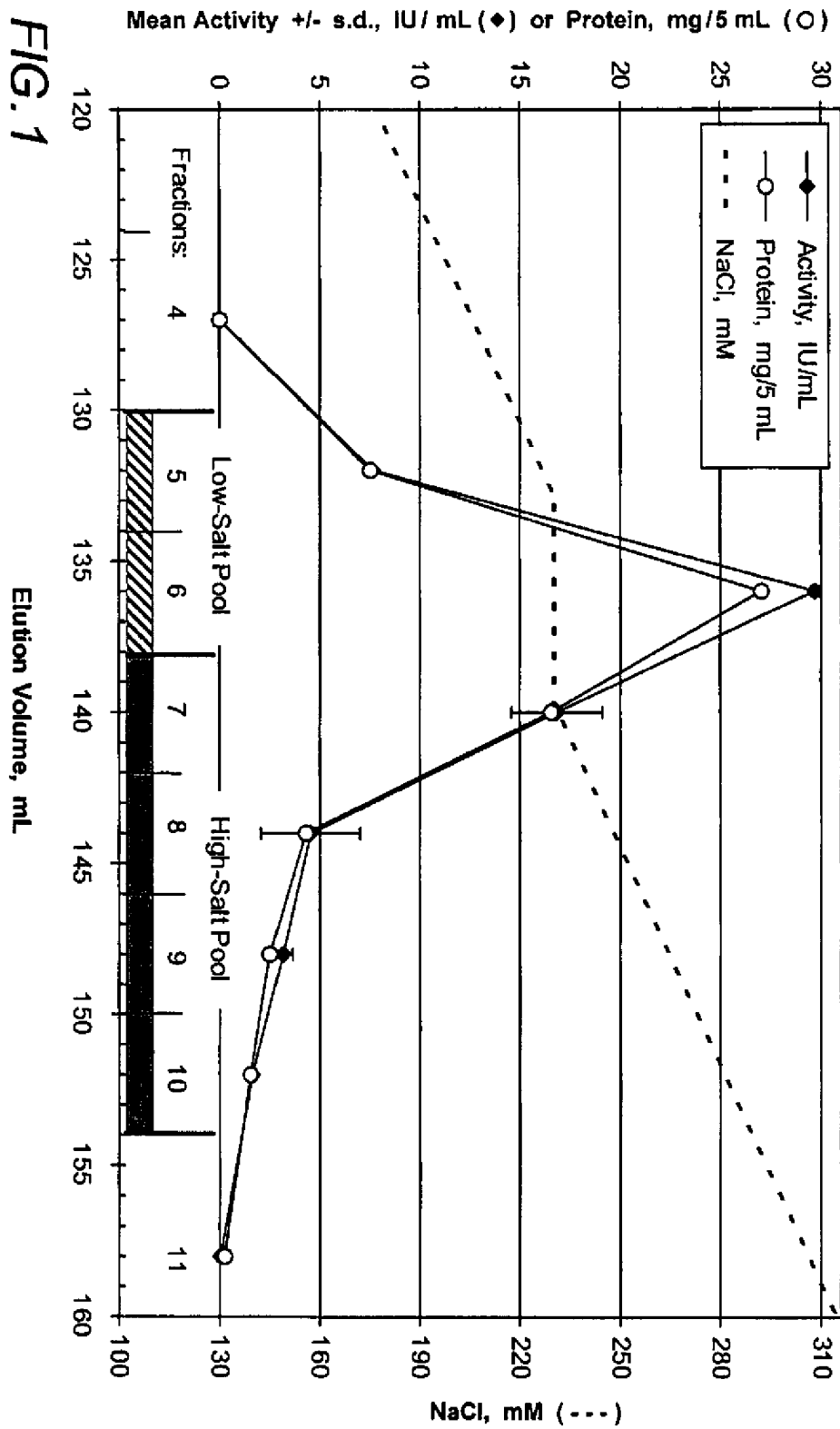
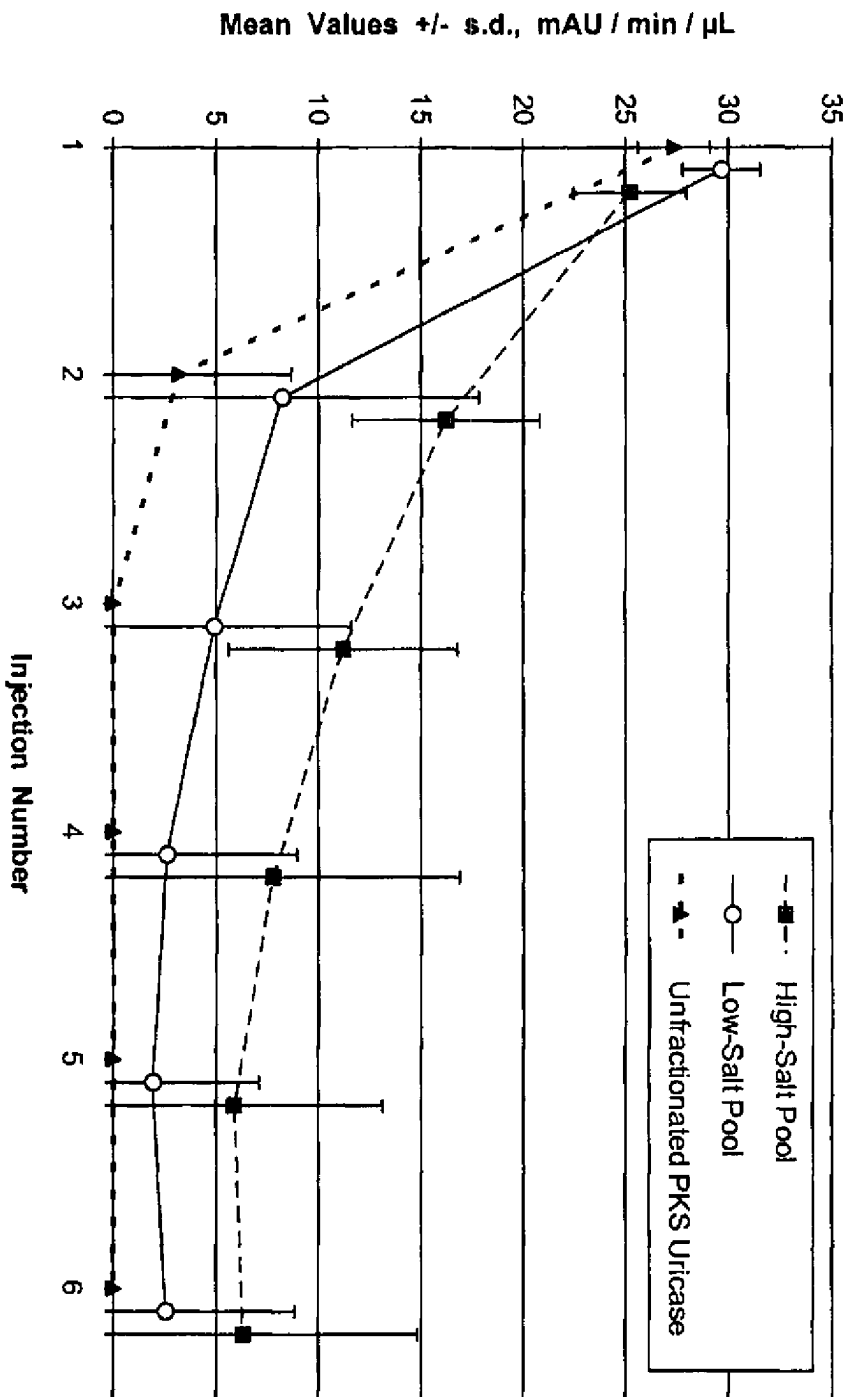


FIG. 5

**UV Uricase Assays of Sera from Mice Injected with 6 x 10-kDa PEG
Conjugates of PKS Uricase or of Pools from Mono Q Column Fractions
(Mice Were Bled 24 Hours after Each Weekly Injection.)**



Data for the Low-Salt and High-Salt Pools were shifted on the x-axis by 0.1 and 0.2 units, respectively.